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Secretion of recombinant hydrophobic peptide analogue - esp. for secretion of respiratory syncytial virus antigenic peptide(s) suitable for use in oral vaccines

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Patent Family:

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WO 9614409	A1	19960517	WO 95FR1464	A	19951107	199625 B
FR 2726576	A1	19960510	FR 9413307	A	19941107	199626
AU 9641200	A	19960531	WO 95FR1464	A	19951107	199639
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NZ 296562	A	19991129	NZ 296562	A	19951107	200031
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Cited Patents: 02Jnl.Ref; GB 2188639; WO 8704185; WO 8704728; WO 8902935

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Abstract (Basic): WO 9614409 A

Novel process for secreting an active, recombinant peptide analogue of a natural peptide having at least one hydrophobic region comprises:
(a) culturing cells transformed by a nucleic acid construct comprising:
(i) a sequence coding for a peptide with one or more modifications in a non-transmembrane hydrophobic region (compared to the natural peptide) and (ii) appropriate expression and secretion elements; and (b)
recovering the peptide and/or the cells carrying it.

USE - The peptide analogues have modifications in their hydrophobic

regions which do not affect their activity but which do facilitate their translocation across the cell membrane. The recombinant peptides can be secreted into the culture medium or anchored in the cell membrane. Cells displaying recombinant RSV-derived peptides on their surfaces can be used in oral vaccines against respiratory syncytial virus of subgroups A and B.

ADVANTAGE - In RSV G protein-derived analogue peptides, substitution of one or both Cys residues at positions 173 and 186 favours formation of the correct disulphide bond between Cys 176 and 182 which is critical for immunogenicity of the peptides. Further modifications in the hydrophobic region situated upstream of the loop formed by the Cys 176-Cys 182 bridge allow the peptides to cross the cell membrane and to be displayed in the correct (i.e. immunodominant) conformation.

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Title Terms: SECRETION; RECOMBINATION; HYDROPHOBIC; PEPTIDE; ANALOGUE; SECRETION; RESPIRATION; VIRUS; ANTIGEN; PEPTIDE; SUIT; ORAL; VACCINE

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